

## CLAIMS

I claim:

1. The method of measuring the orientation angle of a rotational axis to a reference line using:
  - A. at least one reference string aligned to the said reference line, and
  - B. a collimated light source that is rotated about said rotational axis where a collimated light beam from the said collimated light source is projected toward said reference string, and
  - C. the minimum distance between the said collimated light beam and the said reference string is measured at more than one location, and
  - D. the distance between the said locations is known,  
where the said orientation angle of the said rotational axis to the said reference line is calculated.
2. The method as set forth in claim 1 where the said rotational axis is attached to a mounting base.
3. The method as set forth in claim 1 where the position of the said collimated light beam relative to the said reference string is determined by using the electronic current output of two photocells separated apart by a distance that is smaller than the said reference string diameter when the said collimated light beam contacts the said reference strings.
4. The method as set forth in claim 1 where the position of the said collimated light beam relative to the said reference string is determined by using the electronic output of a CCD camera when the said collimated light beam contacts the said reference string.
5. The method as set forth in claim 1 where at least one end of said reference string is located with a fixed mounting plate with a groove.
6. The method as set forth in claim 1 where
  - a. three said locations are chosen on said reference line, and
  - b. the distances between the said three locations are measured, and
  - c. the distances between the said three locations and the said rotational axis are measured,

where the non-perpendicular projection angle of the said collimated light beam relative to the said rotational axis is calculated.

7. The method as set forth in claim 2 where the said collimated light source is movable substantially perpendicular to said reference line and the said movement is measured relative to said mounting base.
8. The method as set forth in claim 2 where a level indicator is attached to said mounting base.
9. The method as set forth in claim 7 where a scale is used to measure said movement.
10. The method as set forth in claim 6 where the said rotational axis is attached to a mounting base.
11. The method as set forth in claim 10 where the said collimated light source is movable substantially perpendicular to said reference line and the said movement is measured relative to said mounting base.
12. The method as set forth in claim 10 where a level indicator is attached to said mounting base.
13. The method as set forth in claim 11 where a scale is used to measure said movement.